

(4) Compliance with the operating parameter limit is achieved when the following criteria are met:

(i) The inlet gas flowrate monitored under paragraph (i)(1) of this section is equal to or below the maximum established by the manufacturer; and

(ii) The pilot flame is present at all times; and

(iii) During the visible emissions test performed under paragraph (i)(3) of this section the duration of visible emissions does not exceed a total of 2 minutes during the observation period. Devices failing the visible emissions test shall follow manufacturers repair instructions, if available, or best combustion engineering practice as outlined in the unit inspection and maintenance plan, to return the unit to compliant operation. All repairs and maintenance activities for each unit shall be recorded in a maintenance and repair log and shall be available on site for inspection.

(iv) Following return to operation from maintenance or repair activity, each device must pass a Method 22 visual observation as described in paragraph (i)(3) of this section.

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**§ 63.773 Inspection and monitoring requirements.**

(a) This section applies to an owner or operator using air emission controls in accordance with the requirements of §§ 63.765 and 63.766.

(b) The owner or operator of a control device whose model was tested under § 63.772(h) shall develop an inspection and maintenance plan for each control device. At a minimum, the plan shall contain the control device manufacturer's recommendations for ensuring proper operation of the device. Semi-annual inspections shall be conducted for each control device with maintenance and replacement of control device components made in accordance with the plan.

(c) *Cover and closed-vent system inspection and monitoring requirements.* (1) For each closed-vent system or cover required to comply with this section, the owner or operator shall comply with

the requirements of paragraphs (c) (2) through (7) of this section.

(2) Except as provided in paragraphs (c)(5) and (6) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (c)(2)(i) and (ii) of this section, each cover shall be inspected according to the procedures and schedule specified in paragraph (c)(2)(iii) of this section, and each bypass device shall be inspected according to the procedures of paragraph (c)(2)(iv) of this section.

(i) For each closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange), the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.772(c) to demonstrate that the closed-vent system operates with no detectable emissions. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in § 63.775(d)(1) or (2).

(B) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in piping; loose connections; or broken or missing caps or other closure devices. The owner or operator shall monitor a component or connection using the procedures in § 63.772(c) to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced or the connection is unsealed. Inspection results shall be submitted in the Periodic Report as specified in § 63.775(e)(2)(iii).

(ii) For closed-vent system components other than those specified in paragraph (c)(2)(i) of this section, the owner or operator shall:

(A) Conduct an initial inspection according to the procedures specified in § 63.772(c) to demonstrate that the closed-vent system operates with no detectable emissions. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in § 63.775(d)(1) or (2).

(B) Conduct annual inspections according to the procedures specified in

§ 63.772(c) to demonstrate that the components or connections operate with no detectable emissions. Inspection results shall be submitted in the Periodic Report as specified in § 63.775(e)(2)(iii).

(C) Conduct annual visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork; loose connections; or broken or missing caps or other closure devices. Inspection results shall be submitted in the Periodic Report as specified in § 63.775(e)(2)(iii).

(iii) For each cover, the owner or operator shall:

(A) Conduct visual inspections for defects that could result in air emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover, or between the cover and the separator wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices. In the case where the storage vessel is buried partially or entirely underground, inspection is required only for those portions of the cover that extend to or above the ground surface, and those connections that are on such portions of the cover (e.g., fill ports, access hatches, gauge wells, etc.) and can be opened to the atmosphere.

(B) The inspections specified in paragraph (c)(2)(iii)(A) of this section shall be conducted initially, following the installation of the cover. Inspection results shall be submitted with the Notification of Compliance Status Report as specified in § 63.775(d)(12). Thereafter, the owner or operator shall perform the inspection at least once every calendar year, except as provided in paragraphs (c)(5) and (6) of this section. Annual inspection results shall be submitted in the Periodic Report as specified in § 63.775(e)(2)(iii).

(iv) For each bypass device, except as provided for in § 63.771(c)(3)(ii), the owner or operator shall either:

(A) At the inlet to the bypass device that could divert the steam away from the control device to the atmosphere, set the flow indicator to take a reading at least once every 15 minutes; or

(B) If the bypass device valve installed at the inlet to the bypass device

is secured in the non-diverting position using a car-seal or a lock-and-key type configuration, visually inspect the seal or closure mechanism at least once every month to verify that the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass device.

(3) In the event that a leak or defect is detected, the owner or operator shall repair the leak or defect as soon as practicable, except as provided in paragraph (c)(4) of this section.

(i) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(ii) Repair shall be completed no later than 15 calendar days after the leak is detected.

(4) Delay of repair of a closed-vent system or cover for which leaks or defects have been detected is allowed if the repair is technically infeasible without a shutdown, as defined in § 63.761, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next shutdown.

(5) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(5) (i) and (ii) of this section, as unsafe to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with paragraphs (c)(2)(i), (ii), or (iii) of this section; and

(ii) The owner or operator has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

(6) Any parts of the closed-vent system or cover that are designated, as described in paragraphs (c)(6) (i) and (ii) of this section, as difficult to inspect are exempt from the inspection requirements of paragraphs (c)(2)(i), (ii), and (iii) of this section if:

(i) The owner or operator determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

(ii) The owner or operator has a written plan that requires inspection of the equipment at least once every 5 years.

(7) Records shall be maintained as specified in § 63.774(b)(5) through (8).

(d) *Control device monitoring requirements.* (1) For each control device, except as provided for in paragraph (d)(2) of this section, the owner or operator shall install and operate a continuous parameter monitoring system in accordance with the requirements of paragraphs (d)(3) through (7) of this section. Owners or operators that install and operate a flare in accordance with § 63.771(d)(1)(iii) or (f)(1)(iii) are exempt from the requirements of paragraphs (d)(4) and (5) of this section. The continuous monitoring system shall be designed and operated so that a determination can be made on whether the control device is achieving the applicable performance requirements of § 63.771(d), (e)(3), or (f)(1). Each continuous parameter monitoring system shall meet the following specifications and requirements:

(i) Each continuous parameter monitoring system shall measure data values at least once every hour and record either:

(A) Each measured data value; or

(B) Each block average value for each 1-hour period or shorter periods calculated from all measured data values during each period. If values are measured more frequently than once per minute, a single value for each minute may be used to calculate the hourly (or shorter period) block average instead of all measured values.

(ii) A site-specific monitoring plan must be prepared that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraph (d) of this section and in § 63.8(d). Each CPMS must be installed, calibrated, operated, and maintained in accordance with the procedures in your approved site-specific monitoring plan. Using the process described in § 63.8(f)(4), you may request approval of monitoring system quality assurance

and quality control procedures alternative to those specified in paragraphs (d)(1)(ii)(A) through (E) of this section in your site-specific monitoring plan.

(A) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(B) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(C) Equipment performance checks, system accuracy audits, or other audit procedures;

(D) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1) and (3); and

(E) Ongoing reporting and record-keeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(iii) The owner or operator must conduct the CPMS equipment performance checks, system accuracy audits, or other audit procedures specified in the site-specific monitoring plan at least once every 12 months.

(iv) The owner or operator must conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

(2) An owner or operator is exempt from the monitoring requirements specified in paragraphs (d)(3) through (7) of this section for the following types of control devices:

(i) Except for control devices for small glycol dehydration units, a boiler or process heater in which all vent streams are introduced with the primary fuel or is used as the primary fuel; or

(ii) Except for control devices for small glycol dehydration units, a boiler or process heater with a design heat input capacity equal to or greater than 44 megawatts.

(3) The owner or operator shall install, calibrate, operate, and maintain a device equipped with a continuous recorder to measure the values of operating parameters appropriate for the control device as specified in either paragraph (d)(3)(i), (d)(3)(ii), or (d)(3)(iii) of this section.

(i) A continuous monitoring system that measures the following operating parameters as applicable:

(A) For a thermal vapor incinerator that demonstrates during the performance test conducted under § 63.772(e) that the combustion zone temperature is an accurate indicator of performance, a temperature monitoring device equipped with a continuous recorder. The monitoring device shall have a minimum accuracy of  $\pm 2$  percent of the temperature being monitored in  $^{\circ}\text{C}$ , or  $\pm 2.5$   $^{\circ}\text{C}$ , whichever value is greater. The temperature sensor shall be installed at a location representative of the combustion zone temperature.

(B) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have a minimum accuracy of  $\pm 2$  percent of the temperature being monitored in  $^{\circ}\text{C}$ , or  $\pm 2.5$   $^{\circ}\text{C}$ , whichever value is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(C) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(D) For a boiler or process heater, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of  $\pm 2$  percent of the temperature being monitored in  $^{\circ}\text{C}$ , or  $\pm 2.5$   $^{\circ}\text{C}$ , whichever value is greater. The temperature sensor shall be installed at a location representative of the combustion zone temperature.

(E) For a condenser, a temperature monitoring device equipped with a continuous recorder. The temperature monitoring device shall have a minimum accuracy of  $\pm 2$  percent of the temperature being monitored in  $^{\circ}\text{C}$ , or  $\pm 2.5$   $^{\circ}\text{C}$ , whichever value is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser.

(F) For a regenerative-type carbon adsorption system:

(1) A continuous parameter monitoring system to measure and record the average total regeneration stream mass flow or volumetric flow during each carbon bed regeneration cycle. The integrating regenerating stream flow monitoring device must have an accuracy of  $\pm 10$  percent; and

(2) A continuous parameter monitoring system to measure and record the average carbon bed temperature for the duration of the carbon bed steaming cycle and to measure the actual carbon bed temperature after regeneration and within 15 minutes of completing the cooling cycle. The temperature monitoring device shall have a minimum accuracy of  $\pm 2$  percent of the temperature being monitored in  $^{\circ}\text{C}$ , or  $\pm 2.5$   $^{\circ}\text{C}$ , whichever value is greater.

(G) For a nonregenerative-type carbon adsorption system, the owner or operator shall monitor the design carbon replacement interval established using a performance test performed in accordance with § 63.772(e)(3) and shall be based on the total carbon working capacity of the control device and source operating schedule.

(H) For a control device model whose model is tested under § 63.772(h):

(1) The owner or operator shall determine actual average inlet waste gas flowrate using the model GRIGLYCalc™, Version 3.0 or higher, ProMax, or AspenTech HYSYS. Inputs to the models shall be representative of actual operating conditions of the controlled unit. The determination shall be performed to coincide with the visible emissions test under § 63.772(i)(3);

(2) A heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(ii) A continuous monitoring system that measures the concentration level of organic compounds in the exhaust vent stream from the control device using an organic monitoring device equipped with a continuous recorder. The monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of 40 CFR part 60 and must be installed, calibrated, and maintained according to the manufacturer's specifications.

(iii) A continuous monitoring system that measures alternative operating

parameters other than those specified in paragraph (d)(3)(i) or (d)(3)(ii) of this section upon approval of the Administrator as specified in § 63.8(f)(1) through (5).

(4) Using the data recorded by the monitoring system, except for inlet gas flowrate, the owner or operator must calculate the daily average value for each monitored operating parameter for each operating day. If the emissions unit operation is continuous, the operating day is a 24-hour period. If the emissions unit operation is not continuous, the operating day is the total number of hours of control device operation per 24-hour period. Valid data points must be available for 75 percent of the operating hours in an operating day to compute the daily average.

(5) For each operating parameter monitor installed in accordance with the requirements of paragraph (d)(3) of this section, the owner or operator shall comply with paragraph (d)(5)(i) of this section for all control devices, and when condensers are installed, the owner or operator shall also comply with paragraph (d)(5)(ii) of this section.

(i) The owner or operator shall establish a minimum operating parameter value or a maximum operating parameter value, as appropriate for the control device, to define the conditions at which the control device must be operated to continuously achieve the applicable performance requirements of § 63.771(d)(1), (e)(3)(ii), or (f)(1). Each minimum or maximum operating parameter value shall be established as follows:

(A) If the owner or operator conducts performance tests in accordance with the requirements of § 63.772(e)(3) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.771(d)(1), (e)(3)(ii) or (f)(1), then the minimum operating parameter value or the maximum operating parameter value shall be established based on values measured during the performance test and supplemented, as necessary, by a condenser design analysis or control device manufacturer recommendations or a combination of both.

(B) If the owner or operator uses a condenser design analysis in accordance with the requirements of

§ 63.772(e)(4) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.771(d)(1), (e)(3)(ii), or (f)(1), then the minimum operating parameter value or the maximum operating parameter value shall be established based on the condenser design analysis and may be supplemented by the condenser manufacturer's recommendations.

(C) If the owner or operator operates a control device where the performance test requirement was met under § 63.772(h) to demonstrate that the control device achieves the applicable performance requirements specified in § 63.771(d)(1), (e)(3)(ii), or (f)(1), then the maximum inlet gas flowrate shall be established based on the performance test and supplemented, as necessary, by the manufacturer recommendations.

(ii) The owner or operator shall establish a condenser performance curve showing the relationship between condenser outlet temperature and condenser control efficiency. The curve shall be established as follows:

(A) If the owner or operator conducts a performance test in accordance with the requirements of § 63.772(e)(3) to demonstrate that the condenser achieves the applicable performance requirements in § 63.771(d)(1), (e)(3)(ii), or (f)(1), then the condenser performance curve shall be based on values measured during the performance test and supplemented as necessary by control device design analysis, or control device manufacturer's recommendations, or a combination of both.

(B) If the owner or operator uses a control device design analysis in accordance with the requirements of § 63.772(e)(4)(i) to demonstrate that the condenser achieves the applicable performance requirements specified in § 63.771(d)(1), (e)(3)(ii), or (f)(1), then the condenser performance curve shall be based on the condenser design analysis and may be supplemented by the control device manufacturer's recommendations.

(C) As an alternative to paragraph (d)(5)(ii)(B) of this section, the owner or operator may elect to use the procedures documented in the GRI report entitled, "Atmospheric Rich/Lean

Method for Determining Glycol Dehydrator Emissions” (GRI-95/0368.1) as inputs for the model GRI-GLYCalc™, Version 3.0 or higher, to generate a condenser performance curve.

(6) An excursion for a given control device is determined to have occurred when the monitoring data or lack of monitoring data result in any one of the criteria specified in paragraphs (d)(6)(i) through (vi) of this section being met. When multiple operating parameters are monitored for the same control device and during the same operating day and more than one of these operating parameters meets an excursion criterion specified in paragraphs (d)(6)(i) through (vi) of this section, then a single excursion is determined to have occurred for the control device for that operating day.

(i) An excursion occurs when the daily average value of a monitored operating parameter is less than the minimum operating parameter limit (or, if applicable, greater than the maximum operating parameter limit) established for the operating parameter in accordance with the requirements of paragraph (d)(5)(i) of this section.

(ii) For sources meeting § 63.771(d)(1)(ii), an excursion occurs when the 365-day average condenser efficiency calculated according to the requirements specified in § 63.772(g)(2)(iii) is less than 95.0 percent. For sources meeting § 63.771(f)(1), an excursion occurs when the 365-day average condenser efficiency calculated according to the requirements specified in § 63.772(g)(2)(iii) is less than 95.0 percent of the identified 365-day required percent reduction.

(iii) For sources meeting § 63.771(d)(1)(ii), if an owner or operator has less than 365 days of data, an excursion occurs when the average condenser efficiency calculated according to the procedures specified in § 63.772(g)(2)(iii)(A) or (B) is less than 90.0 percent. For sources meeting § 63.771(f)(1), an excursion occurs when the 365-day average condenser efficiency calculated according to the requirements specified in § 63.772(g)(2)(iii) is less than the identified 365-day required percent reduction.

(iv) An excursion occurs when the monitoring data are not available for

at least 75 percent of the operating hours in a day.

(v) If the closed-vent system contains one or more bypass devices that could be used to divert all or a portion of the gases, vapors, or fumes from entering the control device, an excursion occurs when:

(A) For each bypass line subject to § 63.771(c)(3)(i)(A) the flow indicator indicates that flow has been detected and that the stream has been diverted away from the control device to the atmosphere.

(B) For each bypass line subject to § 63.771(c)(3)(i)(B), if the seal or closure mechanism has been broken, the bypass line valve position has changed, the key for the lock-and-key type lock has been checked out, or the car-seal has broken.

(vi) For control device whose model is tested under § 63.772(h) an excursion occurs when:

(A) The inlet gas flowrate exceeds the maximum established during the test conducted under § 63.772(h).

(B) Failure of the quarterly visible emissions test conducted under § 63.772(i)(3) occurs.

(7) For each excursion, the owner or operator shall be deemed to have failed to have applied control in a manner that achieves the required operating parameter limits. Failure to achieve the required operating parameter limits is a violation of this standard.

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#### § 63.774 Recordkeeping requirements.

(a) The recordkeeping provisions of 40 CFR part 63, subpart A, that apply and those that do not apply to owners and operators of sources subject to this subpart are listed in Table 2 of this subpart.

(b) Except as specified in paragraphs (c), (d), and (f) of this section, each owner or operator of a facility subject to this subpart shall maintain the records specified in paragraphs (b)(1) through (11) of this section:

(1) The owner or operator of an affected source subject to the provisions of this subpart shall maintain files of all information (including all reports